Nuytsia The journal of the Western Australian Herbarium

25: 209–218 Published online 18 September 2015

Recognition of *Hysterobaeckea* as a genus of Myrtaceae tribe Chamelaucieae

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Abstract

Rye, B.L. Recognition of *Hysterobaeckea* as a genus of Myrtaceae tribe Chamelaucieae. *Nuytsia* 25: 209–218 (2015). *Baeckea behrii* Schltdl. is selected as the lectotype for *B.* subg. *Hysterobaeckea* Nied., which is raised to the generic level as *Hysterobaeckea* (Nied.) Rye. New combinations are made for the three named species that belong to the genus as now defined, and a lectotype is selected for one of those species, *B. ochropetala* F.Muell. The three new combinations are *H. behrii* (Schltdl.) Rye, *H. ochropetala* (F.Muell.) Rye and *H. tuberculata* (Trudgen) Rye. The distinguishing characters of the genus are outlined and a generic key given for the group to which it belongs.

Introduction

In his treatment of Myrtaceae for *Die Natürlichen Pflanzenfamilien*, Niedenzu (1893) recognised a relationship between all of the species from subtribe Baeckeinae Schauer *s. lat.* that had geniculate, non-versatile stamens. Bentham (1867) had previously placed these species in *Scholtzia* Schauer and three sections of *Baeckea* L. *s. lat.*, namely *B.* sect. *Babingtonia* (Lindl.) Benth., *B.* sect. *Harmogia* (Schauer) Benth. and *B.* sect. *Oxymyrrhine* (Schauer) Benth. Niedenzu reduced *Scholtzia* to *Baeckea* sect. *Scholtzia* (Schauer) Nied. and combined the four sections (see Table 1) in his new subgenus *Hysterobaeckea* Nied. This provided a name that could be applied from then on to this species group, referred to in recent publications (e.g. Wilson *et al.* 2007; Rye 2009, 2015) as the *Hysterobaeckea* group.

Adding up the species numbers recorded by Niedenzu for the individual sections (see Table 1) gives a total of only 36 species for the subgenus, a far cry from the approximately 200 species now considered to belong to the group.

The four genera that Niedenzu (1893) treated as sections of *Baeckea*, i.e. *Babingtonia* Lindl., *Harmogia* Schauer, *Oxymyrrhine* Schauer and *Scholtzia*, have all been reinstated (see Wilson *et al.* 2007; Rye 2009). Far from being treated as just a subgenus of *Baeckea*, the *Hysterobaeckea* group is now regarded as the second largest infra-tribal group of the tribe Chamelaucieae DC.

http://florabase.dpaw.wa.gov.au/nuytsia/
ISSN 2200-2790 (Online)
ISSN 0085-4417 (Print)

Table 1. Sections recognised by Niedenzu (1893) under *Baeckea* subg. *Hysterobaeckea*. Square brackets indicate a name that has continued to be used despite evidence (Wilson *et al.* 2007) that it is inappropriate.

Section name, size and distribution	Species listed	Current name
sect. **Babingtonia** 12 species, WA	*Baeckea camphorosmae* (Lindl.) Endl.	*Babingtonia camphorosmae* Lindl.
sect. **Harmogia** 6 species, Australia and New Caledonia	*Baeckea behrii* (Schltdl.) F.Muell. *B. virgata* (Forst.) Andr.	[*Babingtonia behrii* (Schltdl.) A.R.Bean] *Sannantha virgata* (Forst.) Peter G.Wilson
sect. **Oxymyrrhine** 6 species, WA	*Baeckea polyandra* (Schauer) F.Muell.	*Oxymyrrhine gracilis* Schauer
sect. **Scholtzia** 12 species, WA	*Baeckea involucrata* Endl. *B. laxiflora* (Benth.) F.Muell. *B. leptantha* (Benth.) F.Muell. *B. oligandra* (F.Muell ex Benth.) F.Muell.	*Scholtzia involucrata* (Endl.) Druce *S. laxiflora* Benth. *S. leptantha* Benth. *S. oligandra* F.Muell ex Benth.

The large *Hysterobaeckea* group contains many unnamed species that are currently listed by phrase names under *Baeckea* on *FloraBase* (Western Australian Herbarium 1998–). One reason for the lack of progress in naming these new species is that they do not fit readily into any of the currently established genera. In view of this problem it seems appropriate to select a lectotype for subg. *Hysterobaeckea* that will allow its use at the generic level for a group of species that cannot currently be assigned to an accepted genus.

Of the few species Niedenzu (1893) listed under subg. *Hysterobaeckea*, only one, *B. behrii* (Schltdl.) F.Muell., remains in an unsatisfactory placement (see Table 1). It is selected herein as the lectotype for *Hysterobaeckea*, which is raised to the generic level, and new combinations are made for three species belonging to the *B. behrii* species group. The justification for recognising this group as a genus, based on its morphology and molecular evidence, is discussed below.

Background to *Hysterobaeckea s. str.*

Hysterobaeckea s. str., as circumscribed here, is restricted to the species regarded as being most closely related to *Baeckea behrii*. This group consists of the south-eastern Australian species *B. behrii*, the South Australian species *B. tuberculata* Trudgen, the south-western Australian species *B. ochropetala* F.Muell., and a number of other south-western species that are known by phrase names (Western Australian Herbarium 1998–). For well over 100 years, the name *B. behrii* was applied not only to the eastern material, but also many of the unnamed Western Australian species.

When Mueller (1876) described *B. ochropetala*, he gave no indication of its affinities with earlier-named species such as *B. behrii*, noting only that it could be distinguished from other members of its genus by its flower colour. A year later, Mueller (1877) applied the name *B. behrii* var. *brevifolia* F.Muell. *nom. nud.* to the Western Australian species now known as *B.* sp. Bencubbin-Koorda (M.E. Trudgen 5421). *Baeckea tuberculata* was named much more recently by Trudgen (1986), with an illustration by Sue Patrick that included a good depiction of the anther morphology. Trudgen considered *B. tuberculata* to have affinities with *B. ochropetala*.

Five unnamed Western Australian species have previously been identified as *B. behrii* or *aff. behrii* on specimens at the Western Australian Herbarium (PERTH). These are currently known by the names *B.* sp. Barbalin (B.L. Rye & M.E. Trudgen BLR 241022), *B.* sp. Bencubbin-Koorda (M.E. Trudgen 5421), *B.* sp. Wanarra (M.E. Trudgen MET 5376), *B.* sp. Whelarra (A.C. Burns 7) and *B.* sp. Wubin (M.E. Trudgen 5404). By 1995, draft descriptions had been written for each of these species by Bronwen Keighery and Sandra Maley, under funding from the Australian Biological Resources Study (ABRS) awarded to Malcolm Trudgen.

After a new round of ABRS funding to study *Baeckea s. lat.* and other members of Myrtaceae tribe Chamelaucieae commenced in 2002, many additional taxa were recognised by phrase names. I drew up new descriptions for the three named species noted above and all of the related phrase-named taxa that appeared to be sufficiently well defined to recognise as species or subspecies. By this time, the first molecular evidence for relationships within the tribe had been published by Lam *et al.* (2002).

Morphological evidence

The characteristic of the *B. behrii* group that Trudgen (pers. comm. 2004) considered to be particularly significant in separating it from other species groups was described by him as 'leaves are grooved on the adaxial surface, rather than the more common case of being grooved on the abaxial surface, or not grooved at all'. The groove in the *B. behrii* group is often very narrow, just appearing as a line along the centre of the adaxial surface. There is sometimes an adaxial groove in several other species groups but it is open rather than resembling a line. This leaf character is a very useful for distinguishing the *B. behrii* group, although occasionally the groove may be somewhat broader rather than line-like. One of the species previously misidentified (see above) as *B. behrii*, *B.* sp. Barbalin (B.L. Rye & M.E. Trudgen BLR 241022), lacks the adaxial groove altogether and is excluded from the current concept of the genus *Hysterobaeckea*.

Anther morphology is particularly important (see the key) for distinguishing the *B. behrii* group, i.e. *Hysterobaeckea s. str.*, from all of the other named genera. The stamens (see Trudgen 1986: Figure 1) have a right-angle (90°) bend, with the connective gland accounting for most of the length of the part distal to the bend. The front face of the anther is larger than the length of the anther, i.e. the part visible from side view. Dehiscence is introrse, by two basally divergent short slits, with the angle between the slits approximately 90°. As similar anthers occur in a number of south-western species currently housed under the genus *Baeckea*, the delimitation of *Hysterobaeckea* is very likely to be expanded beyond the group of taxa with an adaxial leaf groove when generic boundaries are assessed further.

Molecular evidence

By the time the first molecular data relating to the *B. behrii* group were published in 2002, all eastern Australian species of the *Hysterobaeckea* group had been transferred to *Babingtonia* by Bean (1997, 1999). Using sequences for a number of chloroplast regions, Lam *et al.* (2002) demonstrated strong support for a relationship between material from eastern and western Australia that was being housed as *B. behrii s. lat.*, but not for including these species in *Babingtonia*.

To investigate the validity of using the generic name *Babingtonia* for eastern taxa further, nuclear ETS and chloroplast data from the Western Australian type species *B. camphorosmae* (Endl.) Lindl. and a related Western Australian species were compared with sequences from eastern Australian species (Wilson *et al.* 2007; see also Wilson & Heslewood 2014). These studies did not support the

placement of any of the eastern species in *Babingtonia*. Wilson *et al.* (2007) therefore created two new genera, *Kardomia* Peter G.Wilson and *Sannantha* Peter G.Wilson, and reinstated *Harmogia* to accommodate the New Caledonian and most of the eastern Australian species. However, they left the *B. behrii* group unassigned because most of its species occurred in Western Australia. As a result, the eastern Australian material has continued to be housed under the name *Babingtonia behrii* (Schltdl.) A.R.Bean although the closely related South Australian species has remained as *Baeckea tuberculata*.

Key to the named genera of the *Hysterobaeckea* group

1. Ovary usually 1- or 2-locular, if 3-locular then with ovules solitary or 2 superposed in each loculus (except in *Cheyniana microphylla*). Fruits indehiscent

2. Ovary 1-locular

3. Stamens 3–6, 0–3 opposite each sepal; filament very compressed at base; anther ± compressed ovoid, the connective gland not protruding..... **BABINGTONIA**

3: Stamens 3–13, variously arranged opposite sepals and/or petals; filament moderately to very thick; anther thick, either with a distinctly protruding dorsal connective gland or almost globular..... **MALLEOSTEMON**

2: Ovary 2- or 3-locular

4. Petals 1–4.5 mm long. Stamens 2–30. Ovules 1 or 2 per loculus, if 2 then superposed. Fruits not very hard ..... **SCHOLTZIA**

4: Petals 4.5–7 mm long. Stamens 30–60. Ovules 10–23 per loculus, radially arranged. Fruits very hard ..... **CHEYNIANA**

1: Ovary 2–4-locular; ovules 3–25 per loculus, radially arranged. Fruits dehiscent by 2 or 3 terminal valves

5. Hypanthium petaloid, orange to deep red, 9–20 mm long, with sepals and petals the same colour. Anthers erect, dehiscent by 2 long parallel slits. Style 20–24 mm long. Seeds with a large cavity on the inner surface..... **BALAUSTION**

5: Hypanthium usually green, 0.5–4 mm long, with sepals and petals differently coloured. Anthers bent inwards, dehiscent by 2 short divergent slits or by pores. Style 0.4–4.5 mm long. Seeds with no obvious cavity on the inner surface

6. Anthers rather helmet-like in shape (often with lateral grooves) or 2-lobed, dehiscent by terminal pores, the connective gland not obvious or only shortly protruding

7. Peduncles 1–6-flowered. Flowers with petals 2.3–6.5 mm long, sepals 0.2–1.5 mm long (if petals more than 5 mm long then sepals 0.2–1.1 mm long) and 8–25 stamens. Fruits 1/2 to largely inferior (N of Geraldton–N of Albany)..... **BABINGTONIA**

7: Peduncles 1-flowered. Flowers with petals 4–7 mm long, sepals 1.1–1.6 mm long and 12–45 stamens. Fruits 1/2–2/3 superior (Mt Barren Ranges)..... **ANTICORYNE**

6: Anthers of varied shape, either very compact (usually ± globular) or with the connective gland obvious as a swelling connecting the anther loculi to the unmodified part of the filament

8. Anther connective gland either obscure or not greatly protruding below the base of the anther although it may be obvious within the body of the anther, which is compact and often ± globular

9. Stamens 22–35, in a continuous circle. Fruits fully inferior, with a broad, funnelled central depression..... **OXYMYRRHINE**

9: Stamens 2–23, 0–6 opposite each sepal, none strictly antipetalous (i.e. opposite the centre of a petal). Fruits *c.* 1/2 to fully inferior, with a ± cylindrical central depression

10. Peduncles 1-flowered, with persistent bracteoles. Stamens 8–23. Ovules 12–20 per loculus. Seeds crustaceous ..... **ERICOMYRTUS**

10: Peduncles 1–21-flowered, with bracteoles usually deciduous. Stamens 2–14. Ovules 2–13 per loculus. Seeds thinly crustaceous ..... **TETRAPORA**

8: Anther connective gland obvious as a swelling connecting the anther loculi to the unmodified part of the filament, the protruding part of connective gland at least 0.25 mm long

11. Leaf blades very thick; adaxial surface grooved (the groove line-like in most species). Anthers dehiscent by 2 basally divergent short slits, with a ± 90° angle between the slits; connective gland (viewed from the side of the anther) longer (usually much longer) than the anther loculi (Southern Australia) ..... **HYSTEROBAECKEA**

11: Leaf blades thin in most species; adaxial surface not grooved. Anthers dehiscent by 2 almost horizontal pores or very short slits; connective gland (viewed from the side of the anther) shorter than or about as long as the anther loculi (Eastern Australia and New Caledonia)

12. Peduncles usually 3–9-flowered, never consistently 1-flowered; secondary axes absent. Seeds smooth ..... **SANNANTHA**

12: Peduncles 1–4-flowered, if multi-flowered then the lateral flowers with secondary axes. Seeds with a tuberculate-colliculate surface, each swelling minutely grooved

13. Leaves narrowly obovate to circular in most species but linear in *K. odontocalyx*, not uncinate. Sepals with a dorsal horn 0.3–1.7 mm long ..... **KARDOMIA**

13: Leaves linear or almost linear in outline, thick, uncinate. Sepals not horned ..... **HARMOGIA**

Descriptions and species key

Hysterobaeckea (Nied.) Rye, *comb. nov.*

Baeckea subg. *Hysterobaeckea* Nied., *Nat. Pflanzenfam.* (1893). *Type*: *Baeckea behrii* Schltdl. = *Hysterobaeckea behrii* (Schltdl.) Rye, lectotype here designated.

Shrubs to 3 m high, often broom-like, glabrous; lignotuber absent. *Leaves* opposite. *Petioles* short but usually well defined, concave on abaxial and convex on adaxial surface. *Leaf blades* linear in outline to almost circular, usually thick, entire; adaxial surface usually narrowly grooved along the middle. *Peduncles* 1–3-flowered. *Bracteoles* often deciduous. *Pedicels* usually much shorter than the peduncles. *Hypanthium* cup-shaped, adnate to ovary for most of its length. *Sepals* 5, entire, persistent in fruit; outer surface sometimes horned. *Petals* much longer than sepals, usually white or pink, rarely yellow. *Stamens* 9–28 but commonly *c.* 20, fairly equally distributed in a circle or with gaps opposite the centre of the petals. *Anthers* facing the centre of the flower, with small, closely connate thecae, dehiscent by basally divergent short slits; connective gland large, fused to distal part of filament and/or to the remainder of the anther. *Ovary* inferior, 2- or 3-locular; placentas large; ovules radial, 6–21 per

loculus. *Style* deeply inset; stigma peltate. *Fruits* fully to *c.* 1/2 inferior, many-seeded; hypanthium depressed-cup-shaped and often somewhat lobed; valves 2 or 3. *Seeds* distinctly facetted, 0.7–2 mm long, brown; hilum usually very small. *Chaff pieces* (abortive seeds or unfertilised ovules) facetted, often similar to the seeds.

Size and distribution. A genus of three named species and at least ten unnamed ones. The majority of species occur in inland parts of the south-west of Western Australia, but there are also representatives in South Australia and Victoria. The disjunction between western and eastern areas of the distribution is over 650 km.

Etymology. From the Greek *hysteros* (after, later) and the genus *Baeckea*, presumably referring to the group coming after the typical one, subg. *Archibaeckea* Nied *nom. illeg.* [= subg. *Baeckea*] from the Greek *archos* (chief, leader).

Lectotypification. Niedenzu described subg. *Hysterobaeckea* as having stamens nearly always in antisepalous groups and filaments almost right-angled, joining the club-like, swollen connective. *Baeckea behrii* is a good match for this description, certainly as good or better than the other seven species he listed, and the only one that does not belong to any of the currently delimited genera (Table 1). It is therefore selected as the lectotype.

Key to the named species of *Hysterobaeckea*

1. Leaves broadly oblong-elliptic to circular from top view, 1.5–1.8 mm long. Petals yellow. (Diemals Stn area, WA) ..... **H. ochropetala**

1: Leaves oblong to linear from top view, 2–8 mm long. Petals white

2. Leaves 2–3 mm long, without an apical point, prominently tuberculate; adaxial furrow poorly developed. Stamens *c.* 21. Ovary 2-locular; ovules 6 or 7 per loculus. (Near Tallaringa Well–Anne Beadell Hwy, SA) ..... **H. tuberculata**

2: Leaves 3–8 mm long, with an obvious recurved apical point, not tuberculate; adaxial furrow line-like. Stamens 9–15. Ovary 3-locular; ovules usually 10–13 per loculus. (Eyre Peninsula, SA–near Bendigo, Vic.) ..... **H. behrii**

Hysterobaeckea behrii (Schltdl.) Rye, *comb. nov.*

Camphoromyrtus behrii Schltdl., *Linnaea* 20: 651 (1847); *Baeckea behrii* (Schltdl.) F.Muell., *Fragm.* 4: 68 (1864), *nom. illeg.*; *Babingtonia behrii* (Schltdl.) A.R.Bean, *Austrobaileya* 4: 637 (1997). *Type citation*: 'auf kalkig-sandigem Boden (sandplaine) bei Bethanien'. *Type specimen*: Bethany, South Australia, 10 January 1845, *H.H. Behr* 170 (*holo*: HAL 0074924).

Illustrations. L.F. Costermans, *Native Trees Shrubs SE Austral.* p. 242 (1986); J.P. Jessop & H.R. Toelken, *Fl. South Australia* 2: 894, Figure 462A (1986); N. Bonney & A. Miles, *What Seed That?* p. 82 (1994); N.G. Walsh & T.J. Entwisle, *Fl. Victoria* 3: 1037, Figure 214d (1996) [all as *Baeckea behrii*].

Shrub erect, 1.2–2.5 m high; young stems smooth or often with large oil glands forming shallow rounded projections, rarely tuberculate. *Petioles* 0.5–0.8 mm long. *Leaf blades* narrowly oblong to linear in outline, 4–9.5 mm long, 0.5–0.8 mm wide, 0.3–0.6 mm thick, with a recurved apical point 0.3–1.5 mm long; abaxial surface usually with some large oil glands as well as small ones; adaxial surface narrowly grooved along the middle. *Peduncles* 2–7 mm long, 1–3-flowered; secondary axes

(when present) 0.8–2.3 mm long. *Bracteoles* usually deciduous, 0.8–3.3 mm long. *Pedicels* 0.8–3 mm long. *Flowers* 7–11.5 mm diam. *Hypanthium* 1.5–2 mm long, 3–4 mm wide; free portion 0.6–0.8 mm long. *Sepals* 0.4–0.9 mm long, often largely scarious. *Petals* 2.5–4.5 mm long, white. *Stamens* 9–15, with 1–4 opposite each sepal. *Longest filaments* 0.4–0.8 mm long. *Connective gland* 0.3–0.4 mm long. *Ovary* 3-locular; ovules usually 10–13 per loculus. *Style* 0.8–1.5 mm long. *Fruits* largely inferior, 1.7–2.2 mm long. *Seeds* 0.7–1 mm long.

Selected specimens examined. SOUTH AUSTRALIA: *c.* 4 km SE of Monarto South, Monarto South is *c.* 15 km W of Murray Bridge on Adelaide–Melbourne railway, 4 Nov. 1978, *R.J. Chinnock* 4328 (PERTH); N of Caralue Bluff, 9 Nov. 1955, *J.B. Cleland s.n.* (AD); Port Lincoln, Mar. 1880, *R. Tate s.n.* (AD); 40 miles from Lock towards Cummins, 19 Nov. 1968, *J.W. Wrigley* 685927 (CBG). VICTORIA: 91 km from Mildura, 11 Oct. 1977, *D.J. Cummings* 214, *M.D. Crisp & B. Barnsley* (PERTH); Wimmera district, Oct. 1900, *C. Walter s.n.* (PERTH).

Distribution and habitat. Extends from Eyre Peninsula in South Australia east to near Bendigo, Victoria, including the Big and Little Deserts. Occurs in heathlands, shrublands and mallee communities in sandy soils, often on sand dunes or ridges.

Phenology. Flowers recorded over much of the year but peaking from September to December, with mature fruits mostly recorded from November to March.

Common names. Broom Baeckea, Silver Broom.

Conservation status. Widespread and not considered to be at risk.

Affinities. In Wilson *et al.* (2007), *H. behrii* [as *Babingtonia behrii*] grouped strongly with *H. tuberculata* [as *Baeckea tuberculata*], but no Western Australian members of the genus were represented.

Notes. Considerable variation is found in the *H. behrii* specimens, for example in the texture of the young stem surfaces and the length of the leaves and their apical point. Further study of this variation is needed.

Mueller (1864) recorded up to 15 ovules per loculus, while Bean (1997) recorded 11–13. The range found in a relatively small sample of flowers examined in the current study is 10–13. One of the published illustrations (Jessop & Toelken1986: 894, Figure 462A) shows the fruit as 2-locular, but 3-locular fruits are far more common.

Hysterobaeckea ochropetala (F.Muell.) Rye, *comb. nov.*

Baeckea ochropetala F.Muell., *Fragm.* 10: 29 (1867). *Baeckea grandiflora* var. *ochropetala* W.E.Blackall, in W.E. Blackall & B.J. Grieve, *How Know W. Austral. Wildfl.* 1: 289 (1954), *nom. inval. Type*: between Ularing [Ularring Rock] and Mt Jackson, Western Australia, 17–20 October 1875, *J. Young s.n.* (*lecto*, here designated: MEL 72891; *isolecto*: K 000821739).

Shrub 1–3 m high; young stems not tuberculate. *Petioles* 0.3–0.4 mm long. *Leaf blades* broadly oblong-elliptic to circular from top view, more obovate from side view, 1.5–1.8 mm long, 1.1–1.5 mm wide, 0.8–1 mm thick, with mucro absent or less than 0.1 mm long; abaxial surface with a few large oil glands; adaxial surface narrowly grooved along the middle. *Peduncles* 2–7 mm long, 1-flowered.

Bracteoles caducous or deciduous, *c.* 1.3 mm long. *Pedicels* 0.4–1.3 mm long. *Flowers* commonly 9–12 mm diam. *Hypanthium c.* 3 mm long, *c.* 4.5 mm wide, dotted with fairly prominent oil glands; free portion *c.* 1 mm long. *Sepals* 1–1.5 mm long, with a yellowish scarious margin up to 0.2 mm wide, the outer ones tending to be slightly ridged but not horned. *Petals* 3.5–4.5 mm long, yellow. *Stamens* 17–19. *Longest filaments* 1–1.5 mm long, 0.3–0.6 mm wide at base. *Connective gland c.* 0.6–0.8 mm long. *Ovary* 3-locular; ovules 14–16 per loculus. *Style c.* 1.5 mm long. *Fruits* largely inferior, 3.5–4 mm long. *Seeds c.* 1.35 mm long.

Other specimens examined. WESTERN AUSTRALIA: [localities withheld for conservation reasons] 27 Aug. 2010, *M. Maier & B. Eckermann* MM 1047 B (PERTH); 16 Nov. 2010, *M. Maier & B. Eckermann* MM 1048 B (PERTH); 4 Oct. 2011, *W.P. Muir* WPM 3000 (PERTH).

Distribution and habitat. Occurs in the Diemals Station area, north of Koolyanobbing, Western Australia, in sandplain dominated by *Acacia* and *Melaleuca hamata*.

Phenology. Flowers and fruits recorded from August to November.

Conservation status. Listed by Jones (2014) as Priority One under Conservation Codes for Western Australian Flora as *Baeckea ochropetala*. Known from the type specimen collected over 100 years ago from an imprecise locality between Mt Jackson and Ularring Rock, and from three recent collections in the same general area.

Typification. Two duplicates from the type gathering have been located, one at MEL and the other at K, but the latter lacks flowers. The MEL sheet has a packet containing flowers and Mueller's hand-written notes attached to it, and is therefore selected as the lectotype.

Affinities. The closest affinities of this species are uncertain but a similar-looking species, *Baeckea* sp. Mt Clara (R.J. Cranfield 11693), occurs south of its range. *Baeckea* sp. Mt Clara tends to be a smaller shrub, 0.3–1.8 m high, with smaller seeds, *c.* 1 mm long, and white or pale pink flowers. *Hysterobaeckea ochropetala* appears to be unique among the *Hysterobaeckea* group in having yellow petals.

Notes. Hysterobaeckea ochropetala was first collected in 1875 and no further collections were made until it was rediscovered in 2010. Its very short, broad, thick, truncate leaves occasionally have a short furrow at the base on the abaxial surface as well as the furrow on the adaxial surface.

Hysterobaeckea tuberculata (Trudgen) Rye, *comb. nov.*

Baeckea tuberculata Trudgen, *Nuytsia* 5: 441 (1986). *Type*: Dingo Claypan to Tallaringa road, South Australia, 6 July 1967, *W.S. Reid s.n.* (*holo*: ADW 33507; *iso*: CANB 189989).

Baeckea sp., *in* J.P. Jessop, *Fl. Central Australia* p. 257 (1986).

Illustrations. J.P. Jessop, *Fl. Central Australia* p. 258, Figure 338 (1986) [as *Baeckea* sp.]; J.P. Jessop & H.R. Toelken, *Fl. South Australia* 2: 894, Figure 462E (1986) [as *Baeckea tuberculata*]; M.E. Trudgen, *op. cit.* 442, Figure 1 [as *Baeckea tuberculata*].

Shrub erect, *c.* 1.2 m high; young stems with very prominent oil glands forming tubercles up to 0.3 mm long. *Petioles c.* 0.4 mm long. *Leaf blades* oblong or narrowly so in outline, 2–3 mm long, 0.6–1 mm wide, 0.6–0.7 mm thick, with mucro absent or less than 0.2 mm long; abaxial surface with very prominent oil glands forming tubercles; adaxial surface often narrowly grooved along the middle. *Peduncles* 1–1.3 mm long, 1-flowered. *Bracteoles* often persistent in fruit, 1.5–1.8 mm long. *Pedicels c.* 0.5 mm long. *Flowers* reportedly *c.* 7 mm diam. *Hypanthium* reportedly *c.* 2 mm long and *c.* 4 mm wide, prominently tuberculate. *Sepals c.* 1 mm long, tuberculate towards base. *Petals* reportedly 2–2.5 mm long, presumably white. *Stamens* reportedly *c.* 21. *Longest filaments* reportedly up to *c.* 0.9 mm long. *Connective gland* reportedly 0.6–0.7 mm long. *Ovary* 2-locular; ovules 6 or 7 per loculus. *Style c.* 3 mm long. *Fruits c.* 1/2 inferior, 3–3.5 mm long. *Seeds* 1.5–2 mm long.

Other specimens. SOUTH AUSTRALIA: 47.1 km W of Tallaringa Well, Anne Beadell Hwy, 28 July 2003, *P.G. Wilson* 1588 *& G.M. Towler* (PERTH); *c.* 1.5 km SE of Tallaringa Well, 28 May 1967, *T.R.N. Lothian* 3827 (PERTH).

Distribution and habitat. Occurs towards the eastern edge of the Great Victoria Desert in South Australia, extending from near Tallaringa Well north-west to Anne Beadell Highway, on red sand dunes.

Phenology. Flowers recorded in early July and mature fruits in May and July.

Conservation status. Not known.

Affinities. See under *H. behrii*.

Notes. This species is readily distinguished in having a 2-locular ovary in the great majority of its flowers and in the very prominent oil glands which form large tubercles on young stems, leaves and hypanthia. Its seeds have a larger hilum than normal for the genus. Both of the PERTH specimens are in fruit and no other specimens were examined in the current study. Consequently the description of flowers, petals and stamens is based on the protologue and images.

Acknowledgements

This study was assisted by ABRS funding. Loans of types and other specimens were obtained from AD, ADW, CANB and MEL and images of types housed elsewhere were examined through *Global Plants* (http://plants.jstor.org/). I would like to thank the referee and members of the editorial committee, especially Juliet Wege.

References

Bean, A.R. (1997). Reinstatement of the genus *Babingtonia* Lindl. (Myrtaceae). *Austrobaileya* 4: 627–645.

Bean, A.R. (1999). A revision of the *Babingtonia virgata* (J.R. Forst. & G.Forst.) F.Muell. complex (Myrtaceae) in Australia. *Austrobaileya* 5: 157–171.

Bentham, G. (1867). *Flora Australiensis*. Vol. 3. (Reeve & Co.: London.)

Jessop, J.P. & Toelken, H.R. (eds) (1986). *Flora of South Australia*. Part 2. (South Australian Government Printing Division: Adelaide.)

Jones, A. (2014). *Threatened and Priority Flora list for Western Australia*. (Department of Parks and Wildlife: Kensington, Western Australia.)

Lam, N., Wilson, Peter G., Heslewood, M.M. & Quinn, C.J. (2002). A phylogenetic analysis of the *Chamelaucium* alliance (Myrtaceae). *Australian Systematic Botany* 15: 535–543.

Mueller, F. (1864). Myrtaceae. *In*: *Fragmenta Phytographiae Australiae*. Vol. 4. pp. 51–77. (Government Printer: Melbourne.)

Mueller, F. (1876). Myrtaceae. *In*: *Fragmenta Phytographiae Australiae*. Vol. 10. pp. 22–31. (Government Printer: Melbourne.)

Mueller, F. (1877). List of the plants obtained during Mr. C. Giles's travels in Australia in 1875 and 1876. *Journal of Botany* 15: 269–281.

Niedenzu, F. (1893). Myrtaceae. *In*: Engler, A. & Prantl, K. (eds) *Die Natürlichen Pflanzenfamilien*. Vol. 3(7). pp. 57–105. (Englelmann: Liepzig.)

Rye, B.L. (2009). Reinstatement of the south-western Australian genus *Oxymyrrhine* (Myrtaceae: Chamelaucieae), with three new species. *Nuytsia* 19: 149–165.

Rye, B.L. (2015). Reinstatement of *Ericomyrtus* (Myrtaceae: Chamelaucieae), with three new combinations. *Nuytsia* 25: 131–143.

Trudgen, M.E. (1986). *Baeckea tuberculata* Trudgen, a new species of Myrtaceae (Leptospermeae, Baeckeinae) from South Australia. *Nuytsia* 5: 441–444.

Western Australian Herbarium (1998–). *FloraBase—the Western Australian flora*. Department of Parks and Wildlife. http://florbase.dpaw.wa.gov.au/ [accessed 11 August 2015].

Wilson, P.G., Heslewood, M.M. & Quinn, C.J. (2007). Re-evaluation of the genus *Babingtonia* (Myrtaceae) in eastern Australia and New Caledonia. *Australian Systematic Botany* 20: 302–318.

Wilson, P.G. & Heslewood, M.M. (2014). An expanded phylogenetic analysis of *Sannantha* (Myrtaceae) and description of a new species. *Australian Systematic Botany* 27: 78–84.